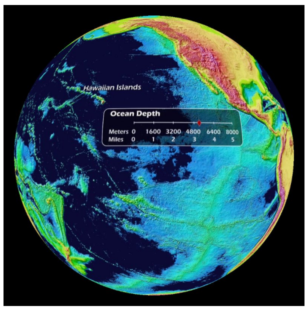
Science On a Sphere®
National Oceanic and Atmospheric Administration

Ocean Drain with Etopo Background

Description



Media Preview

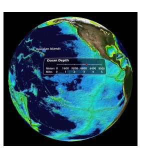
Beneath the sea surface is an amazing sea floor that contains mountain ranges, trenches and plains. The ocean covers 71% of the Earth's surface, has an area of 139,400,000 square miles and an average depth of 2.3 miles. Due to this vast size, only a few percent the sea floor has been mapped by ships. Maps of the sea floor are created by combining soundings from ships, sonar scans from ships, and gravity anomalies in the sea surface detected by satellites.

This dataset gradually reveals the sea floor as the ocean is "drained." The scale in the dataset shows the distance below sea level in meters and miles. As selected features are revealed, a label appears. For this animation, the labeled areas include Mariana Trench, Tonga Trench, Puerto Rico Trench, Hawaiian Islands, Grand Banks, Mid-Atlantic Ridge and Ninety East Ridge. The deepest area in the ocean is the Mariana Trench, which is 6.86 miles (11,033 meters) deep. The longest mountain range in the world is the Mid-Atlantic Ridge, which runs through the middle of the Atlantic Ocean. There are two versions on this dataset that are fully labeled with a colorized seafloor based on bathymetry, one with the land shaded in true color and one with the land shaded based on elevation. A third version of this dataset is available with no labels and the land shaded in true color with the oceans shaded gray.

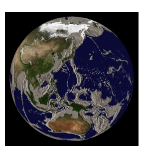
Notable Features

- Several prominent ridges and trenches are identified
- The scale shows the distance below sea level in meters and miles
- The deepest part of the ocean is in the Mariana Trench at 6.86 miles below sea level

Related Datasets



Ocean Drain with Land Background



Ocean Drain with Gray Ocean Floor

Details

Category
Ocean

Audio
No

Dataset Source
Walter Smith, NOAA

Dataset Developer
Walter Smith, NOAA

Visualization Developer
Dan Pisut, NOAA Environmental Visualization Lab

Contact
Walter Smith

Directory
FTP Link

Keywords
Ocean, sea floor, topography, mapping

Science On a Sphere®
National Oceanic and Atmospheric Administration

ETOPO2: Earth Topography and Bathymetry

Description

Media Preview

Many datasets have been created by utilizing the ETOPO2 dataset, which was generated from digital data bases of seafloor and land elevations on a 2-minute latitude/longitude grid (1 minute of latitude = 1 nautical mile, or 1.15 statute mile). The ETOPO2 is a combination of satellite altimetry observations, shipboard echo-sounding measurements, data from the Digital Bathymetric Data Base Variable Resolution and data from the GLOBE project which has a global digital elevation model. The topography and bathymetry side of the Hot Topo dataset was created with this digital data base, as well as the datasets EarthLiteColor, EarthOne, and Earth Land/Bathymetry. EarthOne and Earth Land/Bathymetry are shaded in relatively true color, while Hot Topo and EarthLiteColor use green, yellow, orange, red and white to denote increasing elevation of the land.

All of these datasets show the intricate topography and bathymetry of the Earth. The Himalayas in Asia, which are home to Mount Everest, the tallest point on Earth at 29,035 feet, are clearly visible. Other significant mountain ranges that are easily detected are the Andes in South America, the Rocky Mountains in North America, and the Alps in Europe. The longest mountain range in the world, the global mid-oceanic ridge system, can be found on the ocean floors and runs for approximately 37,000 miles. All of the mid-ocean ridges of the world can be regarded as a continuous oceanic ridge system. The Mid-Atlantic Ridge, which cuts through the Atlantic Ocean, has peaks that break the waters surface to form islands. The ridge joins the Indian Ridge which is to the east of Africa. All of these ridges are the result of plate tectonics. The plates in the Atlantic Ocean are slowly drifting apart causing the Atlantic Ocean to widen at a rate of 5 - 10 cm per year. Other notable features on the seafloor are the impressive trenches that have formed where one tectonic plate dives beneath another. The Marianas Trench between Japan and Australia is the deepest spot in the world's oceans with a depth of 36,201 feet. The deepest part of the Atlantic Ocean is in the Puerto Rico Trench, off the coast of Puerto Rico. It has recorded depths of 28,232 feet.

Details

Category
Land

Audio
No

Dataset Source
Smith and Sandwell (1997); GLOBE; DBDBV

Dataset Developer
NOAA; NGDC ETOPO-2

Visualization Developer
NOAA; NGDC ETOPO-2

Contact
Beth Russell

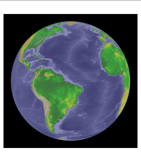
Directory
FTP Link

Keywords
Land, ETOPO2, bathymetry, topography

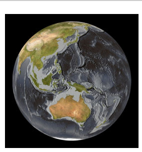
Notable Features

- Mount Everest: tallest point on Earth at 29,035 ft
- Marianas Trench: deepest point on Earth at 36,201 ft
- Mountain Ranges: Himalayas, Rockies, Andes, Alps
- Global mid-oceanic ridge system: longest mountain range

Related Datasets



ETOPO2: Earth Color Enhanced

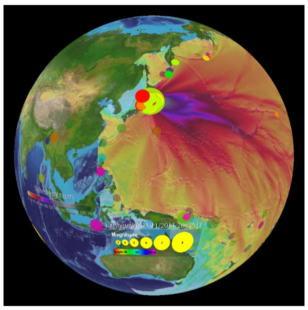


ETOPO2: Earth One Shaded

Science On a Sphere®
National Oceanic and Atmospheric Administration

Japan Earthquake and Tsunami Wave Heights Merged

Description



Media Preview

On March 11, 2011 at 2:45 local time, a 9.0 magnitude earthquake occurred 81 miles (130 km) off the east coast of Sendai, Japan, triggering a massive tsunami. It is estimated that the initial tsunami wave took 10 to 30 minutes to make its first landfall. Forecasted wave heights were up to 33 ft (10 m) and there were many reports of tsunami waves three stories high in parts of Japan. Across the Pacific Ocean, many countries issued evacuations along the coasts because of the predicted tsunami waves.

There are several datasets related to this event. The first is a model run of predicted tsunami wave heights from the Center for Tsunami Research at the NOAA Pacific Marine Environmental Laboratory. It shows the predicted wave heights of the tsunami as it travels across the Pacific basin. The largest wave heights are near the earthquake epicenter, off Japan. The wave decreases in height as it travels across the deep Pacific but grows taller as it encounters shallow waters near coastal areas. In general, the energy of the wave decreases with distance, causing the maximum height of the waves at the coasts to decrease. This explains why coastal Hawaii does not see the heights that were encountered in coastal Japan. Out in the open ocean, areas of low wave height correspond to deeper areas in the ocean.

To show the earthquake activity, a snapshot of the Real-Time Earthquake dataset has been archived. This loop, which is composed of hourly images, starts on February 19, 2011 and runs through March 24, 2011. Increased activity near Japan can be seen in the days before March 11. After the event, hundreds of powerful aftershocks, occurred for days. Over thirty of the aftershocks had a magnitude of greater than 6. In addition, a third dataset has been created by merging the earthquake activity with the predicted tsunami wave heights.

Details

Category
Land

Audio
No

Dataset Source
United States Geological Survey

Dataset Developer
NASA GSFC

Visualization Developer
Steve Albers, NOAA/GSD, NASA GSFC

Contact
Steve Albers

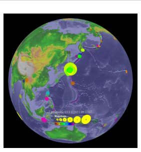
Directory
FTP Link

Keywords
Ocean, Tsunami, PMEL, Japan, Earthquake

Notable Features

- The earthquake had a magnitude of 9.0 and was followed by over thirty aftershocks with a magnitude of over 6.0
- The predicted wave heights are the height of the waves in the open ocean

Related Datasets

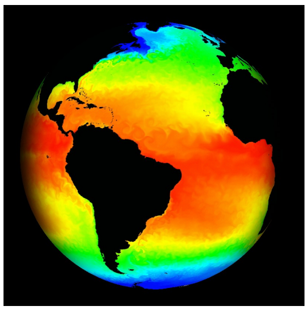


Japan Earthquake

Science On a Sphere®
National Oceanic and Atmospheric Administration

NASA Sea Surface Temperatures

Description



Media Preview

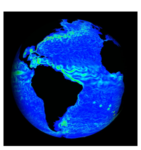
" Sea surface temperature plays a vital role in the behavior of the Earth's climate and weather. It is both a causal factor and a resulting effect of complex interactions of natural forces on Earth. NASA not only measures sea surface temperature from space using powerful scientific instruments, but it also studies temperature processes in advanced computer models." -Gretchen Cook-Anderson, Goddard Space Flight Center

While the coldest areas remain at the poles and the warmest area remains at the Equator, many of the seasonal variations linked to the ocean are visible in this dataset generated by a NASA computer model. The warmest water, which is shaded red, can be seen expanding from the equator during the summer. The East Coast of the U.S. warms steadily during the summer months and then cools in the fall and winter. Ocean currents are also visible, such as the Gulf Stream, which transports warm Gulf of Mexico water up the East Coast. Along the edges of many of the currents, ocean eddies (small whirlpools) can be seen mixing and dispersing the temperature gradients. Ocean eddies also appear along coasts, where land is an obstacle in the path of the water.

Notable Features

- North/South temperature gradient
- Seasonal variations in ocean temperature
- Currents and eddies

Related Datasets



NASA Sea Currents

Details

Category
Ocean

Audio
No

Dataset Source
Los Alamos National Labs and the Naval Postgraduate School

Dataset Developer
Los Alamos National Labs and the Naval Postgraduate School

Visualization Developer
Los Alamos National Labs and the Naval Postgraduate School

Contact
Beth Russell

Directory
FTP Link

Keywords
Ocean, sea surface temperature, current, eddy, model

Science On a Sphere®
National Oceanic and Atmospheric Administration

Ocean Conveyor Belts Animation

Description

Media Preview

The ocean is not a still body of water. There is constant motion in the ocean in the form of a global ocean conveyor belt due to thermohaline currents. These currents are density driven, which are affected by both temperature and salinity. Cold, salty water is dense and sinks to the bottom of the ocean while warm water is less dense and rises to the surface. The "start" of the ocean conveyor belt is in the Norwegian Sea. Warm water is transported to the Norwegian Sea by the Gulf Stream. The warm water provides heat for the atmosphere in the northern latitudes that gets particularly cold during the winter. This loss of heat to the atmosphere makes the water cooler and denser, causing it to sink to the bottom of the ocean. As more warm water is transported north, the cooler water sinks and moves south to make room for the incoming warm water. This cold bottom water flows south of the equator all the way down to Antarctica. Eventually, the cold bottom waters are able to warm and rise to the surface, continuing the conveyor belt that encircles the global. It takes water almost 1000 years to move through the whole conveyor belt.

There are two datasets that illustrate the ocean circulation. The first dataset is an animation that shows the movement of the ocean conveyor belt and the second dataset is a still image that has the major ocean currents labeled. In both datasets, surface waters are the red lines and cold, bottom waters are the blue lines. Changes in ocean circulation could have drastic impacts on the climate. The transport of heat associated with the ocean conveyor belt partially moderates the cold temperatures in the North. As the poles warm due to climate change, melt water from ice and glaciers enters the ocean. This fresh melt water has the potential to slow or even shut off the ocean circulation, which is dependent on temperature and salinity. The density of the fresh melt water is less than that of salty ocean water. This causes the fresh melt water to form a layer on the surface that can block the warm, salty ocean water from transporting heat to the atmosphere. The effect would be a cooling of the higher latitudes. If the warm water is not able to give off heat, it can not cool and sink to the bottom of the ocean. This would disturb the circulation of the entire ocean conveyor belt and have a noticeable impact on the climate in the northern latitudes.

Details

Category
Ocean

Audio
No

Dataset Source
NASA Goddard Space Flight Center

Dataset Developer
NASA Goddard Space Flight Center

Visualization Developer
NASA Goddard Space Flight Center

Contact
NASA Goddard Space Flight Center

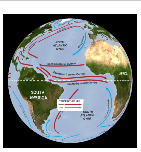
Directory
FTP Link

Keywords
Ocean, conveyor belt, currents, climate change

Notable Features

- Cold bottom currents are blue, warm surface currents are red
- Transport through the whole conveyor belt can take up to 1000 years
- Currents are labeled in the Ocean Circulation dataset

Related Datasets

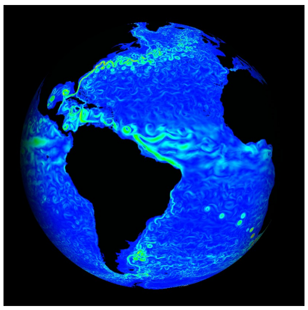


Ocean Circulation

Science On a Sphere®
National Oceanic and Atmospheric Administration

NASA Sea Currents

Description



Media Preview

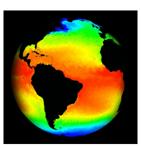
The water in the ocean is constantly moving. Ocean currents are typically driven by surface wind and can have a huge impact on climate. Northwest Europe is moderately temperate considering its latitude because the Gulf Stream off of the eastern coast of the United States transports warm water north to those areas. In fact, the Atlantic Ocean along the U.S. coast is much warmer than the Pacific Ocean along the U.S. coast because of the warm water transported in the Gulf Stream. In this visualization, a model created by NASA, the color variations denote speed. The lighter green areas are moving faster than the blue areas.

Along most of the coasts, where the water faces an obstacle, the water's velocity increases and eddies form. Eddies (small whirlpools) are most readily seen in streams, where they form behind rocks as the water flows around them. The eddies in the ocean follow the same priniciple, but are so large that they are hard to detect. Eddies can also spin off at the edges of currents as they travel through the oceans. An almost constant string of eddies is visible off of the northern coast of South America as an equatorial current from Africa crashes into South America. Eddies are also visible off of many islands around the world.

Notable Features

- The Gulf Stream winding its way along the east coast of the U.S.
- Eddies forming along almost all the coasts

Related Datasets



NASA Sea Surface Temperatures

Details

Category
Ocean

Audio
Yes

Dataset Source
Los Alamos National Labs and the Naval Postgraduate School

Dataset Developer
Los Alamos National Labs and the Naval Postgraduate School

Visualization Developer
Los Alamos National Labs and the Naval Postgraduate School

Contact
Beth Russell

Directory
FTP Link

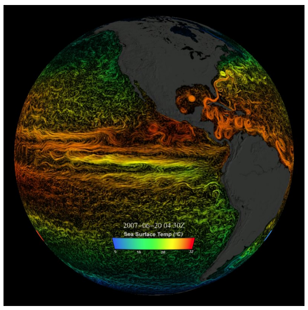
KML
KML File

Keywords
Ocean, model, NASA, current, eddy

Science On a Sphere®
National Oceanic and Atmospheric Administration

Sea Surface Currents and Temperature with Gray Land

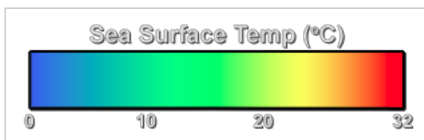
Description



Media Preview

To increase understanding and predictive capability for the ocean's role in future climate change scenarios, the NASA Modeling, Analysis, and Prediction (MAP) program has created a project called Estimating the Circulation and Climate of the Ocean, Phase II (ECCO2): High-Resolution Global-Ocean and Sea-Ice Data Synthesis. ECCO2 produces increasingly accurate syntheses of all available global-scale ocean and sea-ice data at resolutions that start to resolve ocean eddies and other narrow current systems, which transport heat, and other properties within the ocean. ECCO2 data syntheses are created by using the available satellite and in-situ data in the Massachusetts Institute of Technology General Circulation Model (MIT GCM). ECCO2 simulates ocean flows at all depths, but only surface flows are used in this visualization. The global sea surface current flows are colored by corresponding sea surface temperatures. The sea surface temperature data is also from the ECCO2 model.

These surface flows and temperatures represent only the top few meters of the oceans. They are primarily driven by the surface winds, traveling at about 3% of the speed of the winds. The distribution of solar energy from the equators to the poles also contributes to the currents, with the oceans responsible for 40% of the global heat transport.

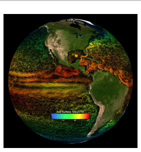


The dominant features are the five subtropical gyres caused by the surface winds. These gyres are centered around high pressure zones in the North Atlantic, North Pacific, South Atlantic, South Pacific, and the Indian Ocean. Circulation moves clockwise in the northern hemisphere, and counterclockwise in the southern hemisphere. The ocean circulations close to the equator are primarily east to west, again, in the direction of the surface winds. The rotating gyres include a northward flow in the western Atlantic and western Pacific moving the warm waters toward the north pole. The cooler waters flow south in the eastern Pacific and Atlantic in its return to the equator. There is one primary circulation in the Indian Ocean about the equator with seasonal variability. Below about 50 degrees south is the eastward circumpolar current around Antarctica, following the direction of the surface winds similar to the other major current systems. This visualization shows the ocean surface currents and temperatures around the world from March 2007 through March 2008.

Notable Features

- The visualization is a synthesis of all available global-scale ocean and sea ice data
- The global sea surface current flows are colored by correseponding sea surface temperature
- There are five subtropical gyres caused by the surface winds centered around high pressure zones in the North Atlantic, North Pacific, South Atlantic, South Pacific, and the Indian Ocean.

Related Datasets



Sea Surface Currents and Temperature with Veg Land

Details

Category
Ocean

Audio
No

Dataset Source
NASA Modeling, Analysis, and Prediction

Dataset Developer
NASA Modeling, Analysis, and Prediction

Visualization Developer
NASA Scientific Visualization Studio

Contact
NASA Scientific Visualization Studio

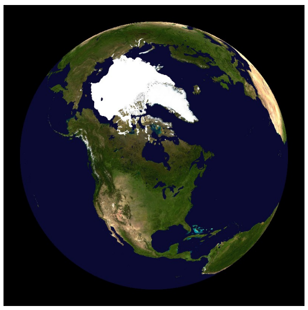
Directory
FTP Link

Keywords
Ocean, sea surface temperature, currents, circulation, model, NASA, ECCO2

Science On a Sphere®
National Oceanic and Atmospheric Administration

September Sea Ice Levels from 1987 - 2010

Description



Media Preview

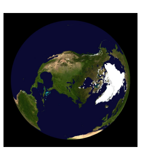
Sea ice is simply ocean water that has frozen. At least 15% of the ocean is covered by sea ice some part of the year. This means that on average, sea ice covers almost 10 million square miles (about 25 million square kilometers) of the Earth. Sea ice concentrations are monitored closely by scientists because changing sea ice concentrations can have a huge impact on the rest of the globe. Global warming is amplified in polar regions. Because of this, monitoring changes in sea ice can be a good indicator of climate change. The National Snow and Ice Data Center monitors sea ice concentrations using a satellite data record that begins in 1978. The Special Sensor Microwave/Imager (SSM/I) is the current monitoring instrument. The sea ice concentration dataset is on a 25km cell size grid covering both Arctic and Antarctic polar regions.

There are three different sea ice concentration datasets available for Science On a Sphere. The first is sea ice concentration every ten days from 1987 - 2010. Sea ice concentration for every six days is available from 2005 - 2007. These datasets show the growth and decay of sea ice concentration throughout the year. In the Arctic, the maximum coverage occurs in March and the minimum coverage occurs in September usually. The opposite is true for Antarctic, where the minimum occurs in March and the maximum occurs in September. An interesting point to note in the long dataset is that the extent of sea ice in the Arctic is shrinking, while the Antarctic sea ice is not trending downward. The third dataset shows only Septembers from 1987 - 2010. September was chosen to highlight the change in the Arctic minimum sea ice concentration through time. The decrease in sea ice coverage is apparent in this dataset.

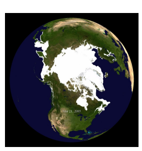
Notable Features

- Seasonal change of sea ice
- Shrinking of Artic sea ice concentration, especially in summers
- The disappearancee of the Odden, a thumb-shaped sea ice feature east of Greenland, which often is visible prior to the late 1990's
- The minimum sea ice concentration in 2007 shattered the previous minimum sea ice record set in 2005 by 23% and contained 39% less ice than the 1979 to 2000 average.

Related Datasets



Weekly Sea Ice July 2005 - August 2007 (over EV)



Weekly Sea Ice from 1987 - 2009 (every 10 days)

Details

Category
Ocean

Audio
No

Dataset Source
National Snow and Ice Data Center

Dataset Developer
Florence Fetterer, Matt Savoie; NSIDC

Visualization Developer
Mike Biere, NOAA/GSD

Contact
Florence Fetterer, Matt Savoie

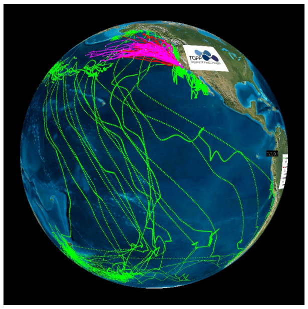
Directory
FTP Link

Keywords
Ocean, sea ice concentration, climate change

Science On a Sphere®
National Oceanic and Atmospheric Administration

TOPP Animal Tracking

Description



Media Preview

"TOPP, Tagging of the Pacific Predators, began in 2000 as one of 17 projects of the Census of Marine Life, an ambitios 10-year, 80-nation endeavor to assess and explain the diversity and abundance of life in the oceans, and where that life has lived, is living, and will live." - From **TOPP website** . Out of this came the Tagging of the Pacific Pelagics Project. Pelagaics are open ocean species such as sea birds and elephant seals. Scientists put satellite tags on animals that collect information about position, ocean temperature, pressure, salinity and more! This allows scientists to better understand the migration patterns and habits of these animals.

This dataset follows Northern elephant seals and Sooty Shearwater seabirds. Northern elephant seals dive deep, sometimes down to 4,650ft and routinely down to 1,800ft. They spend 10 months a year at sea and return to the same beach a couple of times a year, so they are easy to tag and monitor. Sooty Shearwater seabirds are long distance fliers that may travel 74,000km (46,000miles) in a year, reaching Japan, Alaska and California. This dataset tracks Northern elephant seals and Sooty Shearwater seabirds from January 28, 2005 through February 1, 2006. Pictures of elephant seals are available for use as PIPs (picture in pictures).

See **real-time tracking** of the Pacific Pelagics

Notable Features

- Only shows tracking in the Pacific Ocean
- Elephant seals spend 10 months per year at sea
- Sooty shearwater seabirds may travel 46,000 miles per year

Related Datasets

(None)

Details

Category
Ocean

Audio
No

Dataset Source
University of California Santa Cruz, Tagging of the Pacific Pelagics Project

Dataset Developer
University of California Santa Cruz, Tagging of the Pacific Pelagics Project

Visualization Developer
University of California Santa Cruz, Tagging of the Pacific Pelagics Project

Contact
University of California Santa Cruz

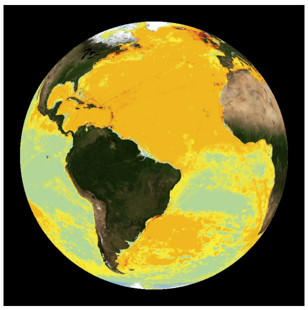
Directory
FTP Link

Keywords
Ocean, migration, seabird, elephant seal, tracking, animal tagging

Science On a Sphere®
National Oceanic and Atmospheric Administration

Extent of Harmful Human Influences on Global Marine Ecosystems

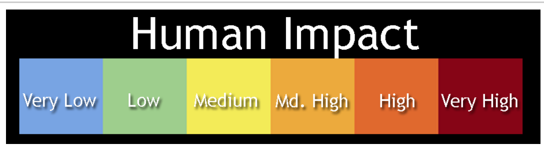
Description



Media Preview

The ocean has an impact on the lives of everyone on Earth, even those who don't live on the coasts. It has been estimated that one in every six jobs in the United States is marine-related and that 50% of all species on Earth are supported by the ocean. Because of this, it is important to protect and preserve the oceans. Humans however have been shown to have a negative impact on the oceans. A report issued in February 2008 found that 40% of the world's oceans are heavily impacted by human activities, such as overfishing and pollution. In all 17 different human activities were examined in the report, including fertilizer run-off, commercial shipping, and indirect activities such as changes in sea surface temperature, UV radiation, and ocean acidification.

This dataset is a map that was put together from the data compiled from the report, A Global Map of Human Impact on Marine Ecosystems, which was published in Science Magazine (**see full text**). In addition to finding that 40% of the world's oceans are heavily impacted by human activities, researchers also concluded that no area is unaffected by human influence. However, there are large areas that have relatively low human impact, especially near the poles. The areas where humans have had the worst impact include the East Cost of North America, North Sea, South and East China Seas, Caribbean Sea, Mediterranean Sea, Red Sea, Persian Gulf, Bering Sea and the western Pacific Ocean. Areas that are shaded red have a high human impact and blue areas have a very low human impact. The study also examined 20 marine ecosystems to determine the impact of the human influences. The ecosystems that are most threatened are coral reefs, seagrass beds, and mangroves.



NOAA press release

Notable Features

- 40% of the world's oceans are heavily impacted by human activities
- The areas with the least impact are near the poles

Related Datasets

(None)

Details

Category
Ocean

Audio
No

Dataset Source
Benjamin S. Halpern, Shaun Walbridge, Kimberly A. Selkoe, Carrie V. Kappel, Fiorenza Micheli, Caterina D'Agrosa, John F. Bruno, Kenneth S. Casey, Colin Ebert, Helen E. Fox, Rod Fujita, Dennis Heinemann, Hunter S. Lenihan, Elizabeth M.P. Madin, Matthew T.

Dataset Developer
NOAA Environmental Visualization Program

Visualization Developer
NOAA Environmental Visualization Program

Contact
Beth Russell

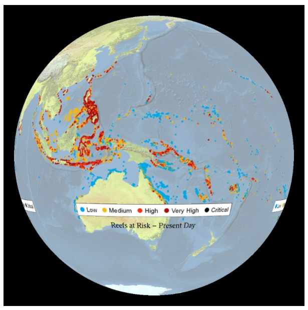
Directory
FTP Link

Keywords
Ocean, ecosystems, pollution, human impacts

Science On a Sphere®
National Oceanic and Atmospheric Administration

Reefs at Risk

Description



Media Preview

From tourism to disease prevention, it's clear that reefs offer much more than recreation. According to the newly released **Reefs at Risk Revisited** report, coral reefs:

- Support more than 275 million people worldwide.
- Protect coastlines in more than 100 countries - helping defend against storms and erosion.
- Accounts for 15% of gross domestic product in more than 20 countries.
- Hold the potential to fight disease - including treatments for cancer, HIV, malaria, and other diseases.

Yet coral reefs today face serious threats. The new report finds that approximately 75% of world's coral reefs are currently threatened by local and global pressures. Local pressures pose the most immediate threat - especially from overfishing and destructive fishing, which is particularly widespread in Southeast Asia. Global threats from climate change and alterations in ocean chemistry (i.e. ocean acidification) are compounding the pressures on reefs. Climate change is causing ocean temperatures to rise, which, in turn, is leading to wide-spread coral bleaching.

This dataset for SOS looks at the present state of coral reefs and then into the future. The present image shows the threat category for coral reefs due to local activities such as overfishing and destructive fishing, marine-based pollution, coastal development, and watershed-based pollution. The projected images in 2030 and 2050 show local threats combined with projections of thermal stress and ocean acidification using a "business as usual" greenhouse gas emissions scenario. According to the report, left unchecked, combined local and global pressures will push 90 percent of coral reefs to threatened status (all non-blue colors) in less than 20 years (by 2030) and nearly all reefs will be threatened by 2050.

Image Details
Reefs are assigned their threat category from the integrated local threat index as a starting point. Threat is raised one level if reefs are at high threat from either thermal stress or ocean acidification, or if they are at medium threat for both. If reefs are at high threat for both thermal stress and acidification, the threat classification is increased by two levels. The analysis assumes no increase in future local pressure on reefs, and no reduction in local threats due to improvements in management.

● Low ● Medium ● High ● Very High ● Critical

Notable Features

- At present, local human activities, coupled with past thermal stress, threaten an estimated 75 percent of the world's reefs.
- By 2030, estimates predict more than 90% of the world's reefs will be threatened by local human activities, warming, and acidification, with nearly 60% facing high, very high, or critical threat levels.
- By 2050, estimates predict nearly all of the reefs will be threatened, with 75% facing high, very high, or critical threat levels.

Related Datasets

(None)

Details

Category
Ocean

Audio
No

Dataset Source
World Resources Institute

Dataset Developer
World Resources Institute

Visualization Developer
NOAA Pacific Services Center

Contact
NOAA Pacific Services Center

Directory
FTP Link

Keywords
Ocean, coral reefs, climate change, fisheries, water